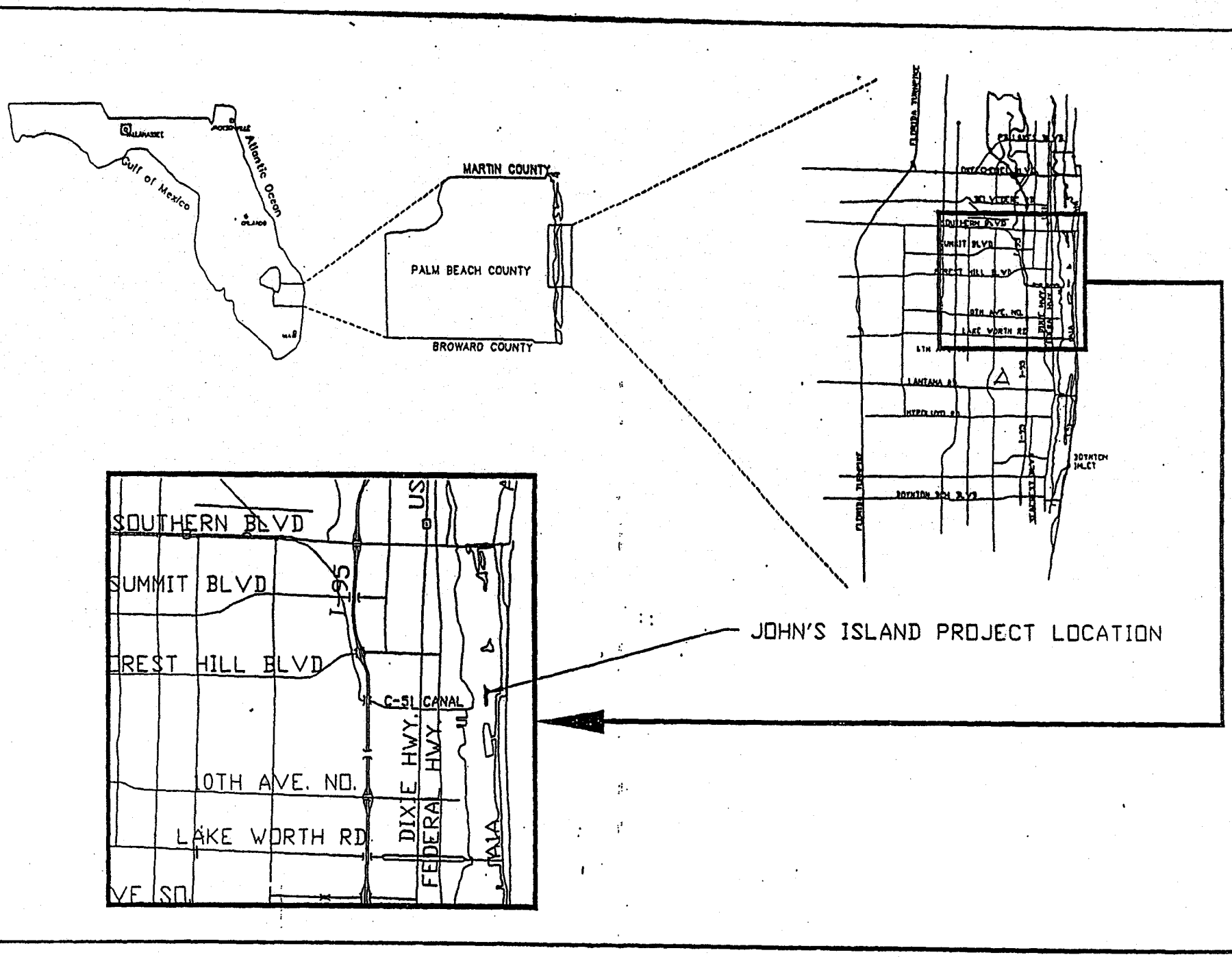
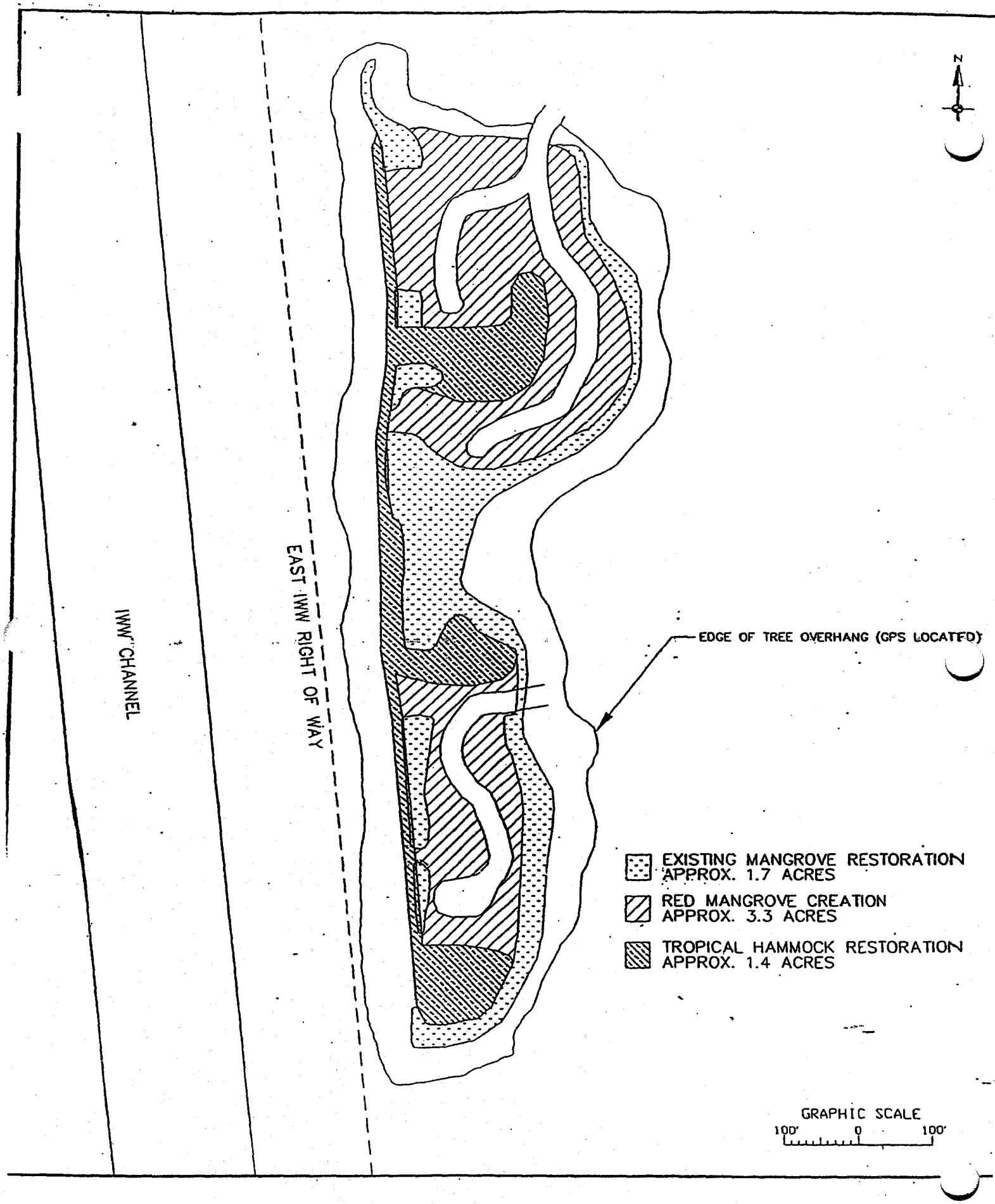
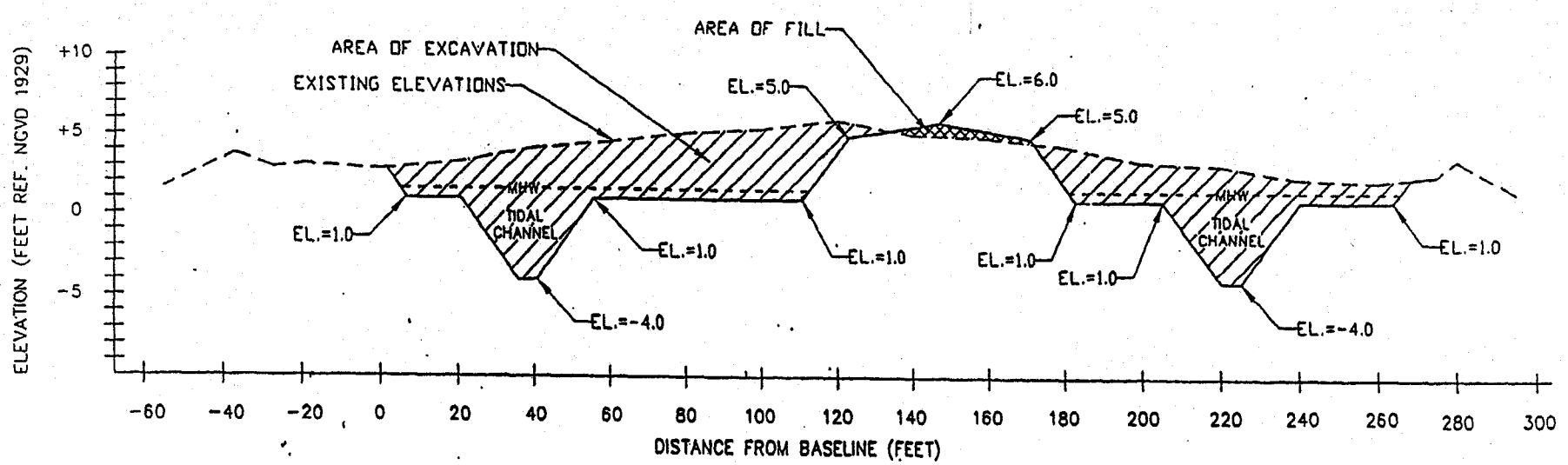
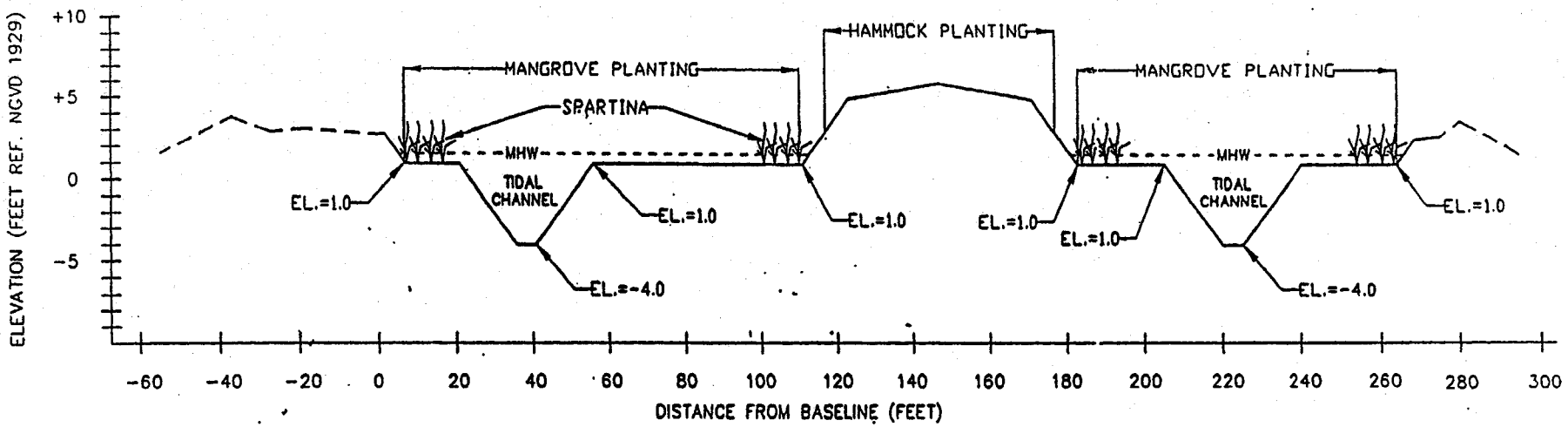

Gulf of Mexico
Atlantic Ocean
MARTIN COUNTY
PALM BEACH COUNTY
BROWARD COUNTY
SOUTHERN BLVD
SUMMIT BLVD
FOREST HILL BLVD
10TH AVE. NO.
LAKE WORTH RD
US 1
I-95
C-51 CANAL
DIXIE HWY.
FEDERAL HWY.
A1A
JOHN'S ISLAND PROJECT LOCATION


N
IWW CHANNEL
EAST IWW RIGHT OF WAY
EDGE OF TREE OVERHANG (GPS LOCATED)
EXISTING MANGROVE RESTORATION
APPROX. 1.7 ACRES
RED MANGROVE CREATION
APPROX. 3.3 ACRES
TROPICAL HAMMOCK RESTORATION
APPROX. 1.4 ACRES
GRAPHIC SCALE
100' 0 100'



NOTES:
1) ALL ELEVATIONS ARE IN FEET REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D.).
2) ALL SLOPES TO GRADE = 3H:1V.
3) SEE FIGURE X FOR SECTION LOCATION.
4) MEAN HIGH WATER (MHW) = 1.6 FT NGVD
5) APPROX. 16,948 CU. YDS. OF SPOIL TO BE EXCAVATED.



NOTES:
1) ALL ELEVATIONS ARE IN FEET REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD).
2) ALL SLOPES TO GRADE=3H:1V.
3) SEE FIGURE FOR SECTION LOCATION.
4) MEAN HIGH WATER (MHW)=1.6 NGVD.
5) 13,800 RED MANGROVES WILL BE PLANTED 3 FEET ON CENTER.
6) 11,400 SMOOTH CORDGRASS WILL BE PLANTED TWO FEET ON CENTER ALONG THE WETLAND PERIMETER AND ALONG TIDAL CHANNELS.
7) 480 TROPICAL HAMMOCK PLANTS WILL BE PLANTED 7 FEET ON CENTER.

APPENDIX I.

CITY OF LAKE WORTH WETLAND RESTORATION PROJECT

SECTION 204

LOCATION

The proposed project is located on submerged lands within ownership of the City of Lake Worth in Palm Beach County, Florida. These submerged lands lie adjacent to the Lake Worth Municipal Golf Course (LWGC), located along the western shoreline of the Atlantic Intracoastal Waterway (IWW) south of the City of West Palm Beach (Figure 1). This portion of the IWW is situated within the salt water lagoon known as Lake Worth Lagoon, on the east coast of Florida. The LWGC is located approximately 10 miles south of Peanut Island.

PROJECT HISTORY

The LWGC has approximately 1.2 linear miles of shoreline along the western shore of the IWW. The existing upland portions of the property were created largely through historic dredging and filling of inter- and sub-tidal wetland resources. A substantial portion of the fill was likely generated through IWW construction and maintenance activities. These and other dredge and fill activities along the shoreline have resulted in a steep littoral profile, with elevations dropping quickly from 3.0 to -7.0 feet NGVD. This steep grade has minimized the area suitable for development of inter- and shallow sub-tidal resources such as mangroves, seagrasses, and oyster reefs. Open water dredge holes as deep as -23.0 FT NGVD currently exist, and depths below -12.0 FT NGVD are common at the project site. Approximately 3,850 of the existing 6,700 feet of adjacent inter-tidal and upland shoreline are fringed with three species of mangroves (red, black, and white), inter-mixed with the exotics Australian pine and Brazilian pepper. The existing LWGC shoreline has been retreating as a result of erosion from wind and wake generated wave energy.

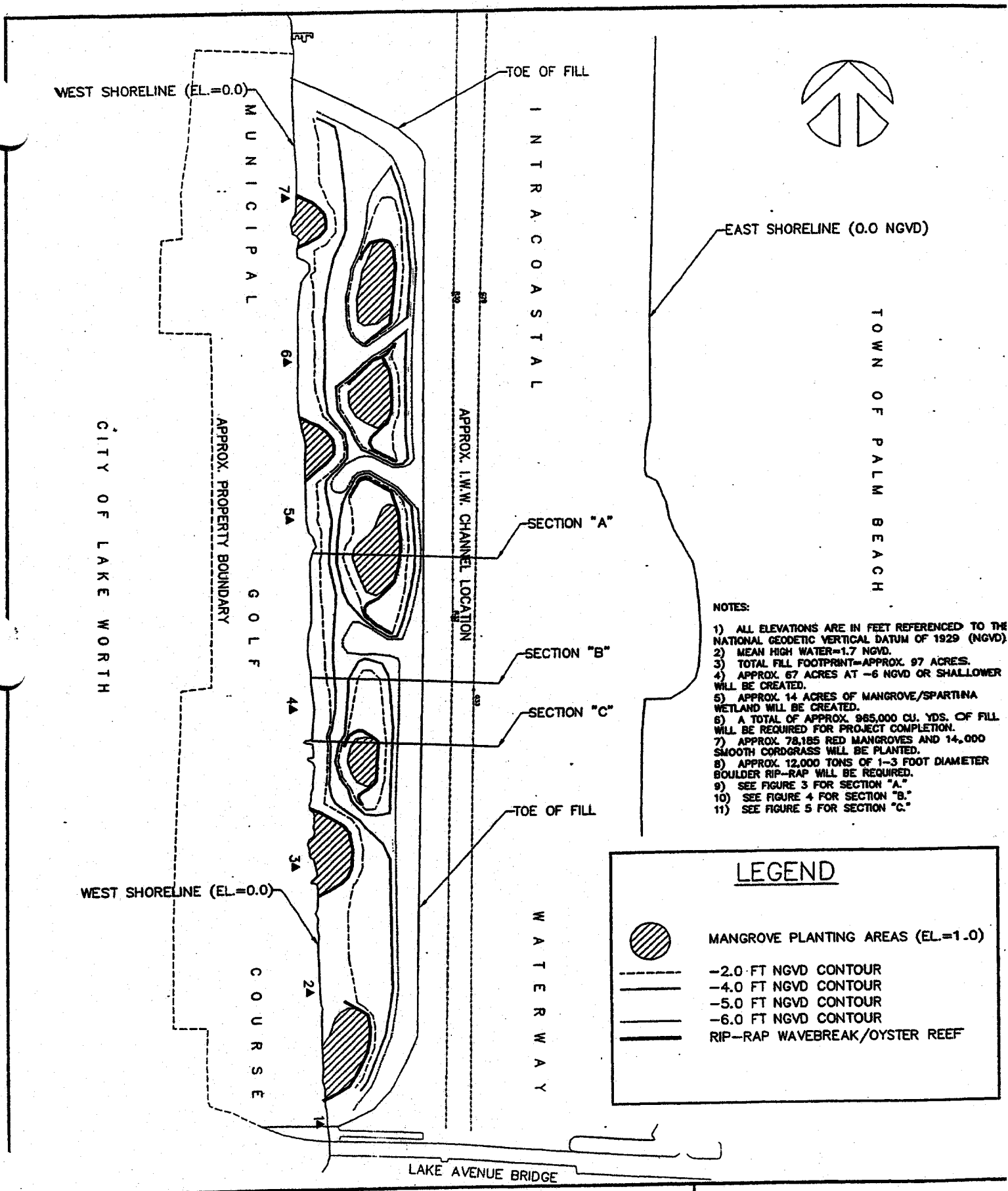
PROPOSED WETLAND RESTORATION SCOPE OF WORK

Figure 2 shows the conceptual restoration plan for the LWGC. Features include: restoration of approximately 1.7 acres of existing mangrove fringe, creation of approximately 14.0 acres of new red mangrove wetlands, 2.0 acres of oyster reef, and 67.0 acres with bottom elevations of -6.0 ft. NGVD and shallower. All exotic plant species, as appropriate, on approximately 5 acres will be removed and chipped on site. There will be inter- and sub-tidal placement of approximately 965,000 yds^3 of spoil material, grading to wetland elevations, and placement of approximately 12,000 tons of 1-3 foot diameter limestone boulder rip-rap. Planting will consist of approximately 78,850 red mangroves (*Rhizophora mangle*), and approximately 14,000 plugs of

reefs will contribute to biodiversity at the project site, and the reefs will support countless animals by providing shelter and feeding areas.

Creation of mangrove planting areas, seagrass recruitment areas and oyster reefs will restore a more natural littoral profile, and substantially increase the area within which seagrasses are likely to colonize. Mangroves, seagrasses and oysters recruiting to these areas will contribute to increased water quality through filtering, nutrient uptake, and sediment stabilization, as well as provide forage and shelter to fish and wildlife. The proposed project will also complement the restoration activities recently completed on Munyon Island and those planned for Peanut Island, both of which are also located in the Lake Worth Lagoon.

The options left for creation and restoration of shoreline and wetland habitats is limited due to the development of coastal areas. The coastal and estuarine shoreline areas available to enhance or restore amount only to a fraction of what has been lost. Therefore, it is clear that if only a portion of the estuarine habitat is to be restored, it is important that it be optimized for productivity. The City of Lake Worth Wetland Restoration Project provides an opportunity to restore and optimize productivity on approximately 81 acres of inter- and sub-tidal wetland habitat.



NOTES:

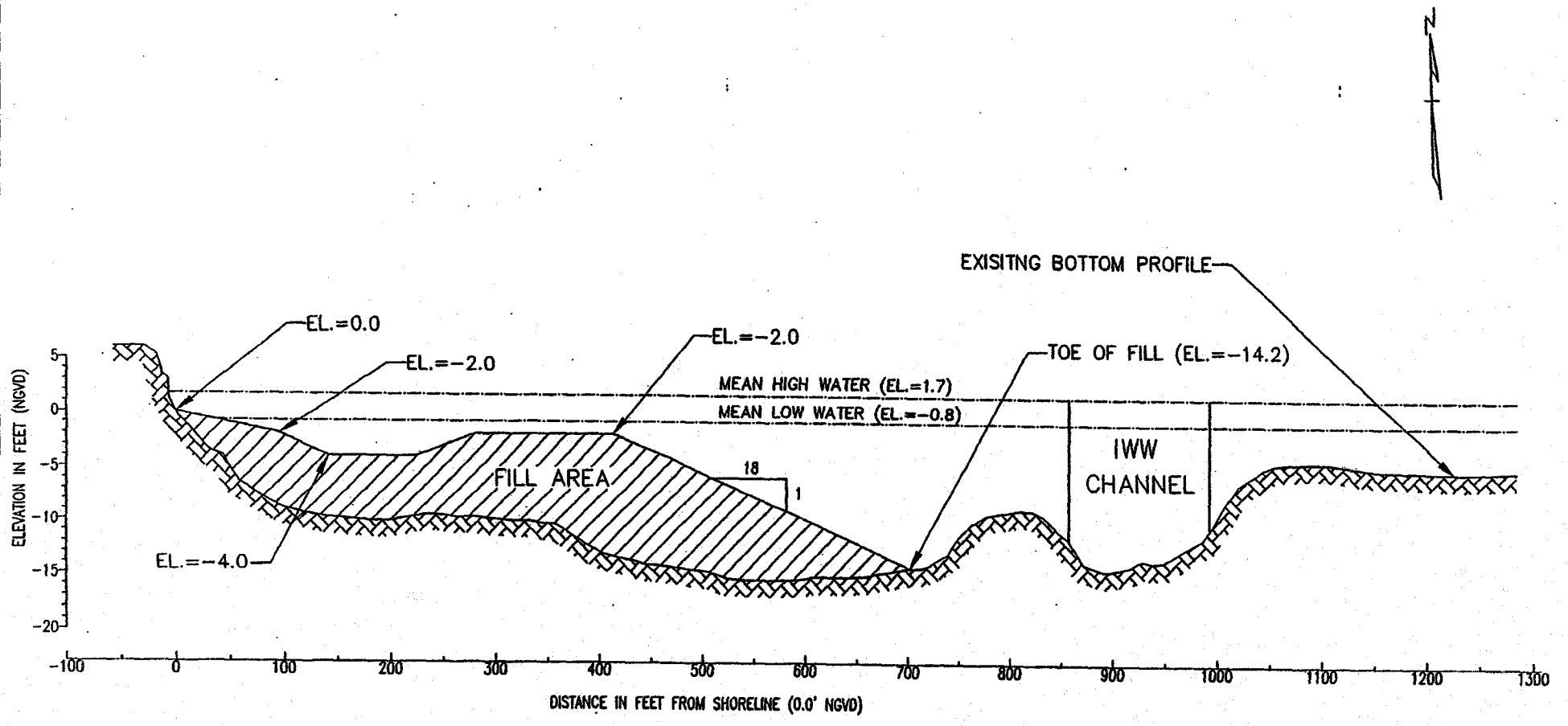
1) ALL ELEVATIONS ARE IN FEET REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD).
2) MEAN HIGH WATER=1.7 NGVD.
3) TOTAL FILL FOOTPRINT=APPROX. 97 ACRES.
4) APPROX. 67 ACRES AT -6 NGVD OR SHALLOWER WILL BE CREATED.
5) APPROX. 14 ACRES OF MANGROVE/SPARTINA WETLAND WILL BE CREATED.
6) A TOTAL OF APPROX. 965,000 CU. YDS. OF FILL WILL BE REQUIRED FOR PROJECT COMPLETION.
7) APPROX. 78,185 RED MANGROVES AND 14,000 SMOOTH CORDGRASS WILL BE PLANTED.
8) APPROX. 12,000 TONS OF 1-3 FOOT DIAMETER BOULDER RIP-RAP WILL BE REQUIRED.
9) SEE FIGURE 3 FOR SECTION "A."
10) SEE FIGURE 4 FOR SECTION "B."
11) SEE FIGURE 5 FOR SECTION "C."

PALM BEACH COUNTY

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

FIGURE 2.
CITY OF LAKE WORTH WETLAND RESTORATION PROJECT
CONCEPTUAL PLAN VIEW

GRAPHIC SCALE (FEET)
500' 0 500'



SECTION "B"

NOTES:

1) ALL ELEVATIONS ARE IN FEET REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD).

PALM BEACH COUNTY
DEPARTMENT OF
ENVIRONMENTAL
RESOURCES
MANAGEMENT

FIGURE 4.
CITY OF LAKE WORTH WETLAND
RESTORATION PROJECT
SECTION "B"

Project _____
Subject _____
Project No. _____
Sheet ___ of ___

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

MAR 15 2000

TO ADDRESSES ON THE ATTACHED LIST

The Jacksonville District, U.S. Army Corps of Engineers, is gathering information to define issues and concerns that will be addressed in the Johns Island Environmental Restoration Project in Lake Worth Lagoon, Palm Beach County, Florida. Authority and funds for the project are provided by Section 1135 of the Water Resources Development Act of 1986, as amended. A preliminary restoration plan has been completed which resulted in a recommendation to continue the study into the feasibility phase. The study area is an island in the Lake Worth Lagoon just north and east of the confluence of Canal 51(see enclosed maps).

Alternatives being considered include Alternative A (removal of 5.0 acres of exotic vegetation - chip and use for mulch, excavate tidal inlets - with shoreline stabilization - and channels to restore 1.7 acres of existing mangroves, create 3.3 acres of wetland habitat, create 1.4 acres of tropical hammock habitat, and dispose of excavated material in adjacent anoxic hole off the shoreline of the Lake Worth Golf Course), Alternative B (the same as Alternative A with disposal of excavated material elsewhere) and Alternative C (no action). During the feasibility study, environmental considerations will be addressed in an Environmental Assessment.

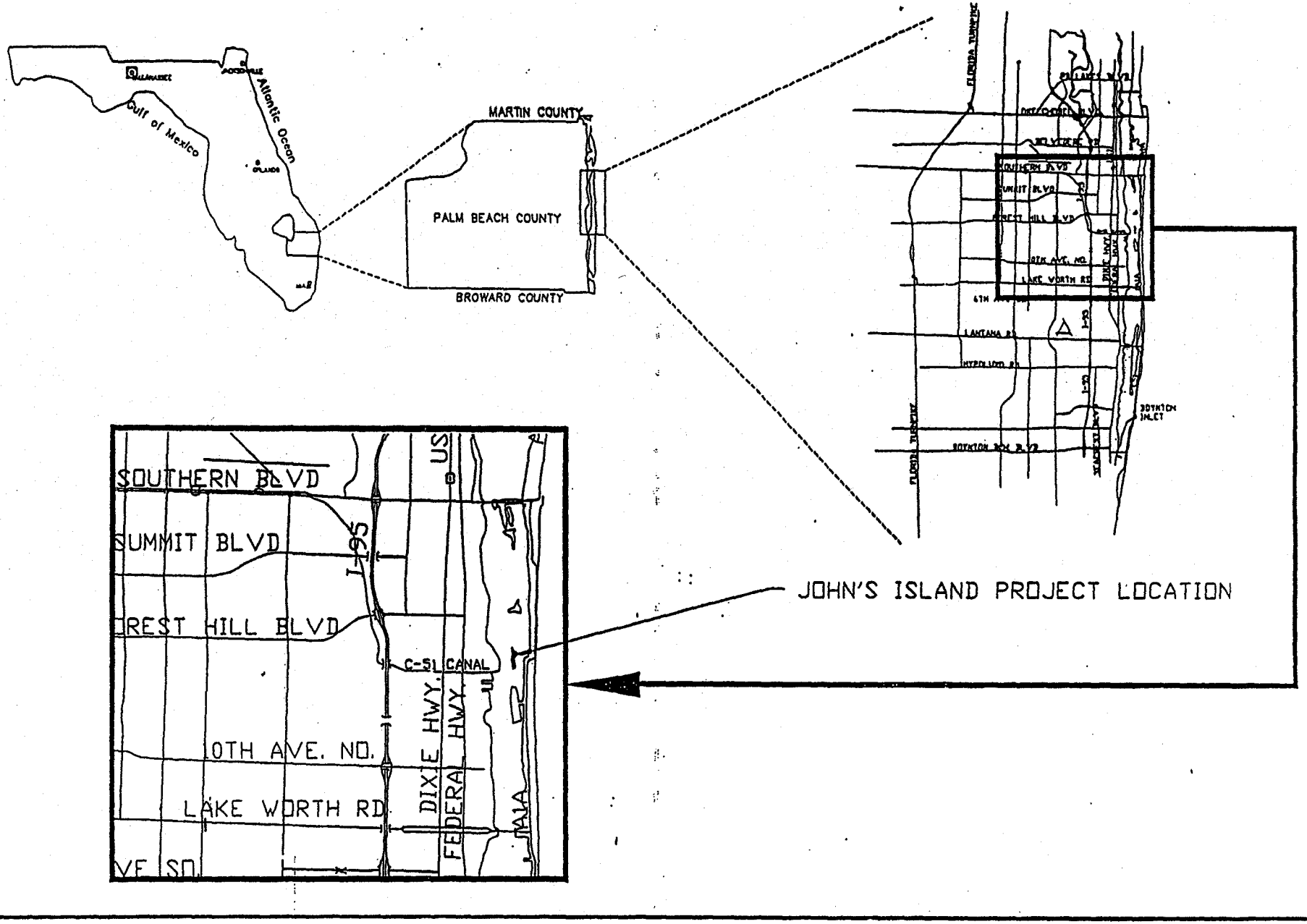
We welcome your views, comments and information about environmental and cultural resources, proposed project components and important features within the described study area, as well as any suggested improvements. Letters of comment or inquiry should be addressed to the letterhead address to the attention of the Planning Division, Environmental Coordination Section and received by this office within 45 days of the date of this letter.

Direct your questions or comments to Mr. Paul C. Stevenson of my staff at 904-232-2130 or paul.c.stevenson@usace.army.mil.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosure


Gulf of Mexico
Atlantic Ocean
MARTIN COUNTY
PALM BEACH COUNTY
BROWARD COUNTY
SOUTHERN BLVD
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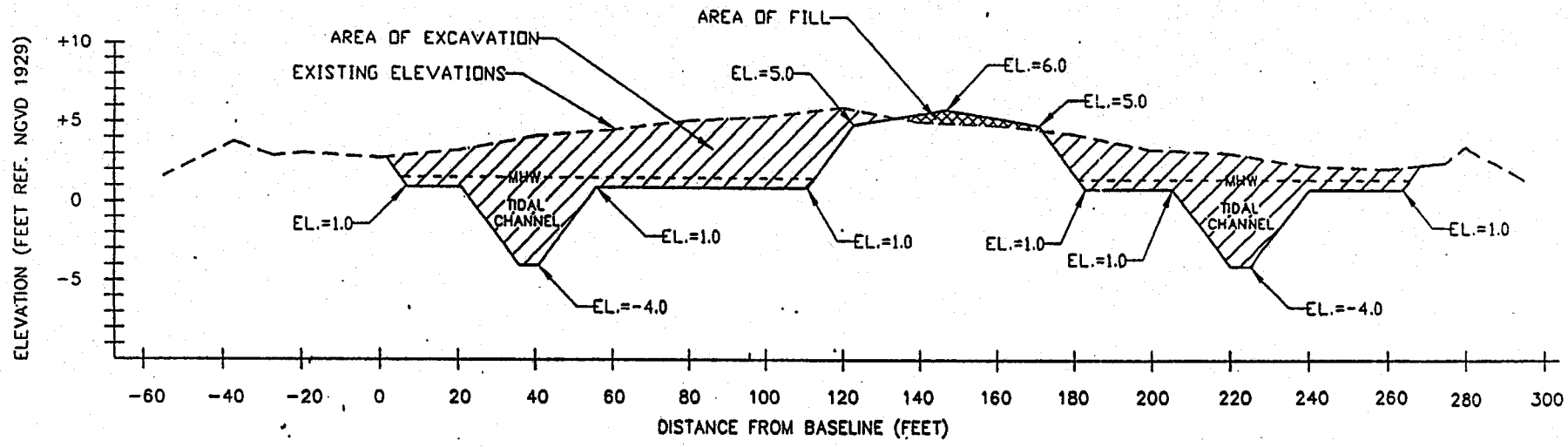
I-95
US
DIXIE HWY.
FEDERAL HWY.
A1A
JOHN'S ISLAND PROJECT LOCATION



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5) APPROX. 16,948 CU. YDS. OF SPOIL TO BE EXCAVATED.

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WASHINGTON DC 20230

ENVIRONMENTAL DIRECTOR
FEDERAL EMERG MANAGEMENT
ADMINISTRATION ROOM 714
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OFFICE OF ENVIRONMENTAL PROJECT REVIEW
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OFFICE OF PLANNING & BUDGETING
EXECUTIVE OFFICE OF THE GOVERNOR
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TALLAHASSEE FL 32301-8074

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TALLAHASSEE FL 32314-6870

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SEVENTH COAST GUARD DISTRICT
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BRICKELL PLAZA FEDERAL BUILDING
MIAMI FL 33131-3050

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FEMA
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COUNTY ENGINEER, CTY OF MARTIN
DEPT OF ENGINEERING
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ROSENSTEIL SCHOOL OF MARINE
AND ATMOSPHERIC SCIENCE
DIVISION OF MARINE AFFAIRS
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FLORIDA CHAPTER, SIERRA CLUB
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NATIONAL MARINE FISHERIES SVC
ENV ASSESSMENT BRANCH
3500 DELWOOD BEACH ROAD
PANAMA CITY FL 32407-7499

NATIONAL MARINE FISHERIES SERVICE
OFFICE OF THE REGIONAL DIRECTOR
9450 KOGER BLVD
ST PETERSBURG FL 33702-2496

CHIEF, PROTECTED SPECIES BRANCH
9450 KOGER BLVD
ST PETERSBURG FL 33702-2496

HARBOR BRANCH
OCEANOGRAPHIC INSTITUTE
5600 OLD DIXIE HWY
FORT PIERCE FL 34946

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PRESERVATION ASSOCIATION, INC
2355 NE OCEAN BLVD
STUART FL 34996

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BOARD OF COUNTY COMMISSIONERS
301 N OLIVE AVENUE
WEST PALM BEACH FL 33401

U S GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
6482 SE FEDERAL HWY
STUART FL 33494

FLORIDA DEPT OF STATE DIVISION OF
HISTORIC RESOURCES
R A GRAY BUILDING
500 SOUTH BRONOUGH STREET
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MAIL STATION 315
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FLORIDA OCEANOGRAPHIC SOCIETY
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STUART FL 34996

HONORABLE BOB GRAHAM
P O BOX 3050
TALLAHASSEE FL 32315

HONORABLE CONNIE MACK
1211 GOVERNORS SQUARE BLVD
SUITE 404
TALLAHASSEE FL 32301-2988

SOUTH FLORIDA SECTION LEADER
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1875 CENTURY BLVD
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2450 EXECUTIVE CENTER CIRCLE W
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SOUTH FLORIDA WATER MGMT DIST
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WEST PALM BEACH FL 33416-4680

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P O BOX 1529
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1000 INDEPENDENCE AVENUE SW
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PORT ST LUCIE FL 34952

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INDIAN RIVER LAGOON
NATIONAL ESTUARY PROGRAM
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MELBOURNE FL 32901-4749

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PALM BEACH COUNTY DEPT OF
ENVIRONMENTAL PROTECTION MGMT
3323 BELVEDERE ROAD BLDG 502
WEST PALM BEACH FL 33406

AUDUBON SOCIETY OF
THE EVERGLADES
P O BOX 16914
WEST PALM BEACH FL 33416-6914

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TALLAHASSEE FL 32311

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DEPUTY DIRECTOR
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SR ENV ANALYST
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MR JOE SMYTH MANAGER
JOHN D MACARTHUR BEACH
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NORTH PALM BEACH FL 33408

MR DENNIS ESHLEMAN DIRECTOR
PALM BEACH COUNTY PARKS AND
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MR JIM BARNES
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MR MITCH THOMAS, P.E.
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JUPITER FL 33468

MR TOM LUNDEEN
PORT OF PALM BEACH
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P O BOX 9935
RIVIERA BEACH FL 33419

MR LEN LINDHL COMMISSIONER
FLORIDA INLAND NAVIGATION DIST
P O BOX 727
JUPITER FL 33468

Planning Division
Environmental Branch

OCT 10 2000

To Whom It May Concern:

Pursuant to the National Environmental Policy Act and the U.S. Army Corps of Engineers Regulation (33CFR 230.11), this letter constitutes the Notice of Availability of the Preliminary Finding of No Significant Impact (FONSI) for the environmental restoration of Johns Island, in Lake Worth Lagoon, Palm Beach County, Florida. A copy of the Preliminary FONSI, project summary and project maps are enclosed.

Questions concerning the Environmental Assessment (EA) that led to the FONSI should be directed to Mr. Paul Stevenson, Environmental Coordination Section, at the letterhead address, 904-232-2130, fax 904-232-3442 or email paul.c.stevenson@usace.army.mil. Two copies of the Draft EA will be available at the Palm Beach Central Public Library, 3650 Summit Boulevard, West Palm Beach by October 13, 2000. The library hours are 10 a.m. to 9 p.m. on Monday through Thursday, 10 a.m. to 5 p.m. Friday through Sunday. The point of contact at the library is Mr. Mike Taub, Public Review Documents Librarian, at 561-233-2600, extension 151.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosures

Stevenson/CESAJ-PD-ER/2130/
Dugger/CESAJ-PD-ER
Smith/CESAJ-PD-E
Strain/CESAJ-PD-P
Murphy/CESAJ-DP-I
Duck/CESAJ-PD

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Planning Division
Environmental Branch

OCT 0 3 2000

Mr. Mike Taub
Palm Beach Central Public Library
Public Review Documents Reference Section
3650 Summit Boulevard
West Palm Beach, Florida 33406

Dear Mr. Mike Taub:

Pursuant to the National Environmental Policy Act and the U. S. Army Corps of Engineers Regulation (33 CFR 230.11), please make available to the public, the Draft Environmental Assessment (EA) on the Environmental Restoration of Johns Island in Palm Beach County, Florida. The Draft EA contains the Preliminary Findings Of No Significant Impact (FONSI), Section 404(b) Evaluation and the Coastal Zone Consistency Statement. All public comments should be directed to attention; Planning Division, Environmental Branch at the letterhead address.

Please place the two enclosed copies of the EA in your Public Review Documents Reference Section for in-library review for 30 days. At the end of the comment period you may file the documents as you wish. Direct your questions to Mr. Paul Stevenson at telephone 904-232-2130.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosures

Stevenson/CESAJ-PD-ER/2130/
Dugger/CESAJ-PD-ER
Smith/CESAJ-PD-E
Strain/CESAJ-PD-P
Murphy/CESAJ-DP-I
Duck/CESAJ-PD

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Planning Division
Environmental Branch

FEB 0 1 2000

JA 4

Mr. David L. Ferrell
Field Supervisor
U.S. Fish and Wildlife Service
Post Office Box 2676
Vero Beach, Florida 32961-2676

Dear Mr. Ferrell:

Enclosed is the Johns Island, Environmental Restoration Report (ERR), Section 1135, Environmental Restoration Project.

After speaking with members of your office, it has been verbally agreed that the U.S. Fish and Wildlife Service (FWS) Coordination Act Report (CAR) would be provided under the FWS' South Florida Coastal Ecosystem Program (SFCEP). Your office supported the Jacksonville District's environmental restoration program with a similar CAR in November 1997 for the Peanut Island Section 1135 Environmental Restoration Project.

We have enclosed the latest version of the Johns Island Preliminary Restoration Plan (PRP) for your information. The PRP includes the restoration concept plan, schedules and general study costs.

Direct your questions concerning this letter and enclosures to Mr. Paul Stevenson of my staff via telephone 904-232-2130 or email paul.c.stevenson@usace.army.mil.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosure

Copy Furnished:
Mr. Kalani Cairns, U.S. Fish and Wildlife Service, Post Office Box 2676, Vero Beach, Florida 32961-2676
Mr. Brad Riech, U.S. Fish and Wildlife Service, Post Office Box 2676, Vero Beach, Florida 32961-2676

bcc: CESAJ-DP-I (T. Murphy)

Environmental Branch
Planning Division

APR 10 2000

Mr. Jay Slack,
Project Leader
South Florida Ecosystem Office
Post Office Box 2676
Vero Beach, Florida 32961-1676

Dear Mr. Slack:

Pursuant to Section 7 of the Endangered Species Act, as amended, the Jacksonville District U. S. Army Corps of Engineers expects the West Indian Manatees (Trichechus manatus) to be present within the Johns Island, Section 1135 Environmental Restoration Project area. We have made the determination that manatees within the project area will not be adversely effected due to the following:

- Restoration work will be undertaken on the island upland areas, not in adjacent waters
- The implementation of Jacksonville District U. S. Army Corps of Engineers Standard Manatee Construction Precautions will be undertaken for the restoration project

Addendum to the Section 7 Letter:

As discussed in the March 31, 2000 telephone conversation with Mr. Brad Rieck of your office, additional information concerning the preferred disposal site option is enclosed. Please combine your Section 7 consultation with the Coordination Act Report as discussed.

Direct your questions concerning this letter to Mr. Paul Stevenson of my staff at telephone number 904-232-2130 or via email at paul.c.stevenson@usace.army.mil.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosures

Copy Furnished:

Mr. Brad Rieck, South Florida Ecosystem Office, Post Office Box 2676, Vero Beach, Florida 32961-1676

Mr. Carmen Vare-Vernachio, Palm Beach County, DERM, 3323 Belvedere Road, Building 502, West Palm Beach, Florida 33406

Stevenson\CESAJ-PD-ER\2130\ als 4/4/00
Dugger\CESAJ-PD-ER
Smith\CESAJ-PD-E
Strain\CESAJ-PD-P
Murphy\CESAJ-DP-I
Ruck\CESAJ-PD

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

April 18, 2000

Mr. James C. Duck
Chief, Planning Division
Department of the Army, Corps of Engineers
Planning Division, Environmental Coordination Section
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Duck:

The National Marine Fisheries Service (NMFS) has reviewed your staff's letter dated March 15, 2000, requesting comments for the proposed Johns Island Environmental Restoration Project in Lake Worth Lagoon, Palm Beach County, Florida. A preliminary restoration plan was completed which has resulted in a recommendation to continue the study into the feasibility phase which will include an Environmental Assessment.

The information supplied in the letter generally outlines three alternatives for the proposed project. Alternative A includes removal of exotic vegetation, excavate tidal inlets to restore tidal flushing to existing mangroves, creation of wetland and tropical hardwood hammock habitat, and filling an anoxic hole along the adjacent shoreline with excavated materials from this restoration project. Alternative B is the same as Alternative A, but with disposal of excavated material elsewhere. Alternative C includes no action.

The project design should maximize the amount of tidally influenced habitat and may increase the potential of mangrove and other wetland plant recruitment to Johns Island. Therefore, the NMFS supports either Alternative A or B of the restoration project. There is not enough information provided regarding the disposal of excavated material within the anoxic hole adjacent to Johns Island for us to make a complete determination of the value of this component of the restoration project.

The NMFS has some concerns that this, and other similar projects, have the potential for adversely impacting shallow seagrass beds in the area during the construction phase. We reference recent Corps of Engineers' (COE) Notice of Noncompliance (199603357[NC-BM]) to Palm Beach County and their contractor, Intercounty Engineering Inc., for unauthorized work in seagrasses at the Light Harbor Marina Park from barges and tug boats associated with permitted work on Peanut Island. The NMFS has similar concerns that barges and other equipment working within the area around Johns Island during the COE's restoration project will also impact shallow seagrass beds in Lake Worth. The COE should include within the Environmental Assessment, a construction plan that details the operating depths of the barge staging areas, routes to and from Johns Island, locations in the area where seagrasses exist and the means to avoid impacting these areas. We recommend a pre-

and post-construction seagrass monitoring schedule be implemented. This will provide current data if impacts to seagrass habitat do occur.

The NMFS will be available to review the Environmental Assessment for the project when it is completed. Thank you for your consideration of our comments. If you have questions, please contact Michael Johnson in Miami, Florida at 305/595-8352.

Sincerely,

W. Mark Thompson for

Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

cc:
EPA,WPB
DEP,WPB
FFWCC,TALL
FWS,VERO
F/SER3
F/SER4
F/SER43-JOHNSON

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
P.O. Box 2676
Vero Beach, Florida 32961-2676

July 14, 2000

Mr. James C. Duck
Chief, Planning Division
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Project : Section 1135 John's Island
Restoration Project
County : Palm Beach

Dear Mr. Duck:

The Fish and Wildlife Service (Service) has reviewed the Army Corps of Engineers' (Corps) project plans to enhance a spoil island in Lake Worth Lagoon, Palm Beach County, Florida. This project is being proposed pursuant to Section 1135 of the Water Resources Development Act of 1992. This draft report is submitted in accordance with Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) and with the Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C. 661 *et seq.*) (FWCA).

PROJECT HISTORY

The Service's assistance was first requested by the Corps in a letter dated February 1, 2000 to review the information provided. A March 15, 2000 letter of general notice followed to gather information to define issues and concerns to be addressed in the John's Island Environmental Restoration Project. The Corps was contacted by the Service to discuss the project and at that time a tentative completion date of a draft Fish and Wildlife Service Coordination Act Report (CAR) was set. A request to combine the Services' Section 7 consultation and the CAR followed in a letter dated April 10, 2000. A "not likely to adversely affect" determination was made by the Corps regarding the West Indian Manatee (*Trichechus manatus*).

PROJECT DESCRIPTION

The project involves enhancement of a 10 acre dredged material disposal island that was created during construction of the Atlantic Intracoastal Waterway (IWW). John's Island occupies what was once submerged shallow-water habitat. Presently, the island is dominated by exotic vegetation such as Australian pine (*Casuarina spp.*), Brazilian pepper (*Schinus terebinthifolius*), and Seaside mahoe (*Thespesia populnea*).

Lake Worth Lagoon has lost an estimated 87% of mangrove wetland habitat between 1940 and 1975 as a result of shoreline development, particularly seawalls and backfill. In an effort to regain some of this lost habitat, the Corps proposes the following alternatives:

- Alternative A = Restore approximately 1.7 acres of existing mangroves, create 3.3 acres of additional mangrove habitat, excavate and stabilize a tidal channel system and restore approximately 1.4 acres of tropical hardwood hammock. Approximately 5 acres of exotic vegetation will be removed. Excavated material will be disposed in an "anoxic" hole adjacent to the Lake Worth Golf Course shoreline.

- Alternative B = Same as Alternative A; however, excavated material will be disposed elsewhere.

- Alternative C = No action.

Alternative A includes placement of the material excavated from John's Island waterward of the shoreline of the Lake Worth Municipal Golf Course to restore bottom elevations to -6 foot and shallower to provide more suitable habitat for seagrass and emergent wetland vegetation. The existing shoreline is approximately 1.2 miles long. It was initially created through the process of dredging and filling intertidal and sub-tidal wetland habitat during construction of the Intracoastal Waterway. These activities have resulted in a shoreline with a steep littoral profile of 3.0 to -7.0 feet National Geodetic Vertical Datum (NGVD), which is not conducive for establishment of sub-tidal and intertidal habitat such as mangroves, seagrass, and oyster reef. In addition, open water dredge holes as deep as -23 feet NGVD exist and depths below -12 Ft. NGVD are common at the site. Three species of mangroves fringe approximately 3,850 of the existing 6,700 feet of shoreline; however, this habitat is degraded by invasive exotics, primarily, Australian pine (*Casuarina sp.*) and Brazilian pepper (*Schinus terebinthifolius*). This shoreline is in a state of retreat as a result of erosion caused by boat wake and wind generated waves.

Alternative A will also enable Palm Beach County to restore approximately 1.7 acres of existing mangrove fringe, create 14 acres of new red mangrove wetlands and create two acres of oyster reef. Additionally, the county proposes to remove approximately 5 acres of exotic vegetation, include cordgrass along the shoreline, and place 1-3 foot diameter limestone rip-rap to absorb wave action.

Enhancement and restoration of these sites through Alternative A will help to provide mangrove and other wetland habitat to Lake Worth Lagoon which historically has documented major loss of these resources. Removal of invasive exotic plant species will help to eliminate a seed source and reduce further propagation of these species. Alternative B would provide identical benefits in terms of spoil island enhancement; however, since the placement of resultant excavated material is not specified for this alternative, environmental consequences cannot be determined.

THREATENED AND ENDANGERED SPECIES

We have reviewed the information provided as well as other information available to us on the presence of threatened and endangered species in the vicinity of the project sites. The Corps has determined that Alternatives A or B of the proposed project is not likely to adversely affect the West Indian manatee (*Trichechus manatus*). The Corps has indicated that Standard Manatee Construction Precautions will be implemented during project activity. As such, we concur with the Corps that the proposed project is not likely to adversely affect the West Indian manatee.

Johnson's seagrass (*Halophila johnsonii*), a federally threatened species, is present in the Lake Worth Lagoon. The National Marine Fisheries Service should be contacted regarding process for this species.

This concurrence fulfills the requirements of Section 7 of the ESA, and no further action is required. If modifications are made to the project, if additional information involving potential effects to listed species becomes available, if a new species is listed, or if designated critical habitat may be adversely affected by the project, reinitiation of consultation maybe necessary.

FISH AND WILDLIFE RESOURCES

Habitat types associated with environmental enhancement/creation include mangrove wetlands, emergent and high marshes, seagrass, tidal lagoons, and upland tropical hardwood hammocks. Associated fish and wildlife resources would in turn benefit. Due to an increase in desirable structure and feeding opportunities, bird utilization would be expected to increase with respect to individuals and species diversity. These include colonial nesters such as herons, ibis, and pelicans as well as other avifauna such as shorebirds, raptors, and neotropical migrants. Fisheries would benefit from both an expansion of desirable detrital sources and benthic shallows for invertebrate growth and food chain support, as well as expanded refugia. The enhancement of John's Island will benefit Lake Worth Lagoon where wetland resources and upland hammocks have declined dramatically in recent years.

The Service supports the environmental enhancement elements as indicated in the conceptual plan. We generally support concepts which would increase habitat diversity and maximize fish and wildlife utilization in a manner which would best serve the Lake Worth Lagoon ecosystem.

SUMMARY AND RECOMMENDATIONS

At this time, the Service supports Alternative A of the John's Island Restoration Plan Section 1135 Environmental Restoration Project in Lake Worth Lagoon. However, as the project progresses we request more detailed information regarding the following:

- ♦ techniques related to the removal and placement of the excavated spoil.